Preface

Mathematical modeling and use of mathematical and statistical techniques are essential in analyzing economic phenomena. Empirical economics, in particular, test mathematical representations of the real world by the use of statistical methods. In an effort to familiarize mathematicians with the actual use of mathematical and statistical methods used in the field of economics, a conference, organized by Professor MARUYAMA,TOHRU of Keio University, was held at Josai University on 24th of February, 1997.

This volume collects the texts of the four lectures presented at the conference. They include studies on: i) the issues related to the actual government use of several mathematical models to evaluate monetary and fiscal policies; ii) statistical decomposition of financial time-series data such as interest rates into long-term, short-term, and irregular movements in order to better understand their dynamic properties; iii) the logical structure of applied economics that stresses the importance of the continual feedback between economic theory and empirical studies, as well as the essential role played by mathematics; iv) statistical description of the changes in industrial and occupational structure of a certain local economy to provide a better understanding of the evolution and the source of economic strength of such economy.

The editors take pleasure in thanking all participants and authors in producing this volume. We would also like to thank Josai University for the generous financial support to the International Conference on Economics and Mathematical Sciences and publication of this proceedings as SCIENCE BULLETIN OF JOSAI UNIVERSITY, Special Issue No.3. Thanks are also due to the university staff for their generous support to this symposium.

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December, 1997